



## Pollution Control Services Department

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Gary Miller  
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U.S. Environmental Protection Agency (EPA)

Subject: San Jacinto River Waste Pits Superfund Site –Draft Surface Water and Ground  
Water Sampling and Analysis Plans

Dear Gary,

The Technical Review Team of Harris County (“Technical Review Team”) appreciates the opportunity to review and comment on the draft sampling and analysis plans for the surface and groundwater studies near the San Jacinto River Waste Pits Superfund Site (SJRWPS) located in Harris County, Texas. The following documents prepared by Anchor QEA and Integral Consulting, Inc. were reviewed:

SAMPLING AND ANALYSIS PLAN: SURFACE WATER STUDY SAN JACINTO RIVER  
WASTE PITS SUPERFUND SITE (November 20, 2015)

And

DRAFT ADDENDUM 3 GROUNDWATER STUDY SAMPLING AND ANALYSIS PLAN SAN  
JACINTO RIVER WASTE PITS SUPERFUND SITE (November 2015)

### **Surface Water Sampling and Analysis Plan comments:**

1. The main document describes a procedure for high-volume sampling of PCDD/F congeners in dissolved and suspended phases using glass fiber filters and XAD-2 resin, consistent with the historical TCEQ TMDL sampling. The attached SOP SW-17 for “High-volume surface water sampling for analysis of organic compounds with low detection limits”, however, describes sampling using a vortex separator and PUF cartridge. Another attached SOP SW-04 describes “Surface water sampling using a peristaltic pump.” It is not clear if the Consultants intend to use this SOP for collecting the water before passing through the glass fiber filters and XAD-2 resin. If so, it is our opinion that it would result in substantial loss of the PCDD/Fs prior to reaching the XAD-2 resin, with partial loss of the suspended phase PCDD/Fs through desorption. In our experience sampling ultra-trace hydrophobic

organic compounds, it is very important to minimize the surface area to volume ratio of the sampling column, and the exposure time of water to those surfaces, between the water body and the filter/XAD-2 resin. Please provide an updated SOP that resolves the sampling approach for PCDD/F congeners.

2. It is possible that the flow and tidal conditions during sampling could impact the interpretation of the results. As such it is recommended that all samples be collected under low flow conditions on a falling tide and outside the influence of any bayous, tributaries or outfalls that may contribute contaminants of concern. It is understood that this may be difficult to achieve in practice however, at a minimum, the samples at SJSW004 (11193) and SJSW001 (11197) should be collected under these conditions with tidal flow direction and velocity estimated and recorded periodically during sample collection.

**Groundwater Sampling and Analysis Plan comments:**

1. The purpose stated in the SAP regarding sampling the waters near the southern impoundment is to determine if there is dioxin/furan release from shallow groundwater to surface and deep groundwater. However, the plan only mentions sampling of the shallow groundwater, not of the deep groundwater. Confirm that deep groundwater sampling is also included in the sampling plan/event.
2. The SAP states that the data will be compared to EPA MCLs and state drinking water quality standards. The data should also be compared to historical data obtained from these monitoring wells during past sampling events as well as the TCEQ TRRP GW values.
3. Depending on the limitations of the available SPME (solid-phase micro extraction) technology, the PRPs shall ensure that the proposed approach is capable of detecting groundwater concentrations at or below the human health Texas Surface Water Quality Standard (i.e.,  $7.97 \times 10^{-8}$  ug/L (or 0.0797 pg/L) 2,3,7,8-tetra-chloro-dibenzo-p-dioxin (TCDD) equivalent).
4. If the SPME is not an EPA-approved method, then the laboratory methodology should be included, and should specify how calibration standards are to be produced and how SPME partition coefficients are to be determined, along with quality assurance/ quality control procedures specific to this method.